DAKEWE CoE
Flow cytometry Training Core

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STANDARD OPERATING PROCEDURE

Beckman CytoFlexS Usage Instrution

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Table of Contents

Section	Page
1. Policies	2
2. Purpose	2
3. Responsibilities	2
4. Procedures	
4.1. Starting up	2
4.2. Running Samples	2-3
4.3. Shutdown and cleaning	4
Date established and subsequent reviews	4

1. Policies

1.1. To standardize the daily usage of Beckman CytoFlexS including quality control processes, operating procedures and quality assurance measures.

2. Purpose

2.1. This file applies to all authorized personnel, including researchers, technicians, and laboratory management staff, who use the Beckman CytoFlexS flow cytometer in this laboratory.

3. Responsibilities

3.1. The CoE Flow Cytometry Training Core Director is responsible for instrument maintenance, periodic review of QC data, scheduling annual calibration, and personnel authorization.

3.2. User is esponsible for verifying the QC status prior to instrument operation, performing sample acquisition in accordance with this SOP, and performing post-use cleaning duties.

4. Procedures

4.1. **Starting up**

4.1.1 Register user name,sample count and durtion time in Lab book.

4.1.2 Check the fluid system , fill up the sheath fluid and empty Waste.

4.1.3 Turn on the flow cytometer, computer and open the CytExpert software.

4.1.4 select the startup process, prepare 2ml deionized water according to the prompt, and run.

4.1.5 Prepare the QC particles,click the QC Test button in the Instrument tab of the Menu and RUN.

4.1.6 After data collection is complete, click the Report to view the test results. The CV values must be below 5%, the linearity around 1, and MFI target difference below 10%. After QC test pass,ready to run a new experiment.

4.1.7 Click a button of “Creat new experiment” ,save the experiment and rename with the format of “mmddyy_sample_experiment NO.” in your own experiment folder.

4.1.8 Select the channel you need and enter chanel label from the Settings menu and click Apply.

4.1.9 To create a new tube, you can click add tube button in the Tube windows and load your sample.

4.1.10 Check the default Acq.settings like Gain, thershold in the Acquisition window, you can change the value basic on your sample.

4.1.11 Set the sample Acquisition Conditions including the stop condition, Flow rate, and threshold.

4.2. Running Samples

4.2.1. After setting the acquisition parameters and acquisition conditions, click the sample tube and set it as the Active Sample in the tube window.

4.2.2. Insert the sample tube into the sample port and select the run button to start collecting and displaying data.

4.2.3. While running you can creat the plots and set up your gating strategy.

4.2.4. After running the NO.1 tube ,you can click the “next tube” and load another sample, and in this way, all your plots can be copied.

4.2.5. After running samples: Export your data as FCS files: Right click the experiment or specimen/Export/Export to FCS files and then choose OK.

4.3. Shutdown and cleaning

4.3.1 Cleaning: Click on the Cytometer -> Daily Cleaning. Follow the software prompts to sequentially run cleaning solution and deionized water. The cleaning solution running time should be no less than 3 minutes, and the deionized water running time should be no less than 5 minutes.

4.3.2 Exit the CytExpert software.

4.3.3 Turn off the power to the computer and the flow cytometer.

4.3.4 Eympty the waste liquid from the waste container.

5. Date established and subsequent reviews (annually at a minimum)

Revision	Review or Revision Date	Description of Changes	Reviewed By
1.0	01/01/25	New SOP	